I CLAIM:

1. A galvanically isolated voltage sensing circuit, said circuit comprising:

a scaling device that provides a scaled signal of a input voltage to a modulator;

an oscillator providing a carrier frequency to said modulator;

said modulator modulating said scaled signal with said carrier frequency to produce a modulated scaled signal;

an isolation transformer coupled to an output of said modulator; said isolation transformer receiving said modulated scaled signal; and

a demodulator coupled to an output of said isolation transformer; said demodulator demodulating said modulated scaled signal to produce an input voltage signal representative of said scaled signal.

2. The invention of claim 1 wherein said isolation transformer comprises a miniature isolation transformer.

3. The invention of claim 1 wherein said scaling device comprises a high impedance voltage divider coupled to a buffer.

4. The invention of claim 3 wherein said buffer comprises a high impedance input buffer and a low impedance output.

5. The invention of claim 1 wherein said modulator also receives a Direct Current bias input.

6. The invention of claim 1 wherein said demodulator comprises a linear rectifier, a low pass filter, and a DC component blocker.

7. The invention of claim 1 wherein said carrier frequency is greater than a frequency of said line voltage.

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8. The invention of claim 1 wherein said modulator comprises an AM modulator.

9. The invention of claim 1 wherein said scaling device comprises a resistive voltage divider.

10. The invention of claim 1 wherein said scaling device comprises a capacitive voltage divider.

11. The invention of claim 1 wherein said modulator comprises at least one rail-to-rail switching element.

12. The invention of claim 1 wherein said voltage sensing circuit comprises a three-phase voltage sensing circuit.

13. A method of galvanically isolating a voltage, said method comprising the steps of:

providing a scaled signal of an input voltage to a modulator;

generating a carrier frequency and providing said carrier frequency to said modulator;

producing a modulated scaled signal by modulating said scaled signal with said carrier frequency;

coupling an isolation transformer to said modulator and a demodulator; said isolation transformer receiving said modulated scaled signal;

demodulating said modulated scaled signal to produce a line voltage signal representative of said scaled signal.

14. The invention of claim 13 wherein said isolation transformer comprises a miniature isolation transformer.

15. The invention of claim 13 wherein said scaling device comprises a high impedance voltage divider coupled to a buffer.

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16. The invention of claim 13 wherein said carrier frequency is greater than a frequency of said line voltage.

17. The invention of claim 13 wherein said carrier frequency is greater than about 1 MHz.

18. The invention of claim 13 wherein said modulator comprises an AM modulator.

19. The invention of claim 13 wherein said modulator comprises an FM modulator.

20. The invention of claim 13 wherein said input voltage comprises a three-phase voltage input.

21. A voltage sensing circuit, said circuit comprising:

a scaling device comprising a high impedance voltage divider coupled to a buffer;

a modulator coupled to an output of said scaling device and receiving a dc bias;

an oscillator coupled to said modulator;

a miniature isolation transformer coupled to an output of said modulator; and

a demodulator coupled to an output of said miniature isolation transformer, said demodulator comprising a linear rectifier, a low pass filter, and a DC component blocker;

wherein said demodulator demodulates an input and generates a scaled output line voltage.

22. The invention of claim 21 wherein said voltage sensing circuit comprises a three-phase voltage sensing circuit.

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